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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,348	12/08/2003	Scott W. Petrick	GEMS 0225 PA	1347
27256	7590	12/14/2005	EXAMINER	
ARTZ & ARTZ, P.C. 28333 TELEGRAPH RD. SUITE 250 SOUTHFIELD, MI 48034			MALEVIC, DJURA	
			ART UNIT	PAPER NUMBER
			2884	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/707,348	PETRICK, SCOTT W.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Djura Malevic	2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1,2,8,9 and 11-26 is/are rejected.
- 7) ☒ Claim(s) 3-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/10/04</u> . | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

#### **Claim Objections**

Claims 12, 19, 20 and 21 –26 are objected to because of the following informalities:

In claim 12, applicant makes reference to said “at least one scan line”, such recitation lacks proper antecedent basis, as there is no prior mention in parent claim 11. The recitation “at least one scan line” is perceived by the examiner to be “at least one *split* scan line”.

In claim 20, applicant makes reference to claim 20, such recitation lacks proper antecedent basis since a claim cannot depend on itself. Note that the examiner perceives claim 20 as a dependant claim of claim 19.

In claim 19, applicant makes reference to claim 20, such recitation lacks proper antecedent basis since claim 20 depends on itself. Note that the examiner perceives claim 19 as a dependant claim of claim 18.

Claims 21 –26 are objected because they are dependants of objected claim 20.

Appropriate correction is required.

#### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –*

*(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

Claims 1, 2 and 8 - 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Petrick *et al.* (US Patent 6,404,852 B1).

With regards to claim 1, Petrick discloses an x-ray detector (Figure 3) comprising a plurality of pixels receiving x-rays, one split scan line **46** activating said plurality of pixels and one data line **47** conducting charge relative of said x-rays.

With regards to claim 2, Petrick discloses one data line **47** comprising at least one non-split data line (Figure 3).

With regards to claim 8, Petrick discloses that the split scan lines **46** are vertically stacked (Figure 3).

With regards to claim 9, Petrick discloses one data line **47** comprising a first side coupled to a first set of pixels (upper signal lines) and a second side coupled to a second set of pixels (lower signal lines) (Figure 3).

With regards to claim 11, Petrick discloses an x-ray detector (Figure 3) comprising a plurality of pixels receiving x-rays, one split scan line **46** activating said plurality of pixels and one data line **47** conducting charge relative of said x-rays. Petrick further discloses (Figure 1) a readout circuit **28** (image processor) coupled to said data line **47** and generating x-ray signals in response to line conducting charge relative of said x-rays and a controller **36** electrically coupled to said readout circuitry **28** wherein, said controller **36** generates an x-ray image in response to said x-ray signals.

With regards to claim 12, Petrick discloses one split scan line **46** comprising a first set of scan lines (upper signal lines) and second sets of scan lines (lower signal lines) (Figure 3).

With regards to claim 13, Petrick discloses a first drive circuit coupled to first set of scan lines and a second drive circuit couple to said second set of scan lines (Figure 1) (Col. 3, Line 16 –46).

With regards to claim 14, Petrick discloses first and second drive circuits comprising a plurality of scan drivers (Figure 1 and 2) (Col. 3, Line 16 –65).

With regards to claim 15, Petrick discloses one data line comprising at least one non-split data line (Figure 3).

With regards to claim 16, Petrick discloses one data line comprising a first set of data lines and a second set of data lines (Figure 3).

With regards to claim 18, Petrick discloses a method of operating an x-ray detector comprising the steps of activating a plurality of pixels via at least one split scan line, receiving x-rays and indicating extent of said x-rays via at least one data line (Col.3, Line 16++).

With regards to claim 19, Petrick discloses that the plurality of pixels are divided in half between the upper and lower group scan lines (Col. 4, Line 48), thus alternating pixels between first and second half of said one split scan line.

With regards to claims 20 and 21, Petrick discloses reading the data in the second plurality of rows after the first (Summary of invention).

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and*

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*the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petrick in view of Vafi *et al.* (US Pub. 20020085670 A1).

With regards to claim 22, Petrick discloses the method of operating an x-ray detector as claimed in claim 20 but Petrick does not expressly disclose the step of alternating pixels on said at least one data line. Vafi teaches alternating pixels on said data line [0033 –0036]. Petrick and Vafi are analogous art because they are from the same field of endeavor, X-ray detecting systems.

Thus, it would have been obvious at the time of the invention was made to a person of ordinary skill in the art to modify Petrick to include alternating pixels on said data line such as that taught by Vafi that alternating pixels will give similar results [0033]:

Claim 23 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petrick in view of Karellas *et al.* (US Patent 6,895,077 B2).

With regards to claims 23 and 24, Petrick discloses the method of operating an x-ray detector as claimed in claim 20 but Petrick does not expressly disclose combining or analog binning adjacent pixels. Karellas teaches binning (combining) adjacent pixels (Col. 14, Line 15++) (Figure 7). Petrick and Karellas are analogous art because they are from the same field of endeavor, X-ray detecting systems.

Thus, it would have been obvious at the time of the invention was made to a person of ordinary skill in the art to modify Petrick to include binning (combining)

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adjacent pixels such as that taught by Karellas in order to provide improved signal to noise ratio (Col. 14, Line 28).

With regards to claims 25 and 26, Karellas teaches that a plurality of pixels can be grouped or binned selectively to provide variable resolution of the intensity with a single detector spanning multiple connections, thus teaching pixels on separate halves of a split scan line and adjacent pixels on a common data line (Col. 5, Line 32).

**Allowable Subject Matter**

Claims 3 – 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 10 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

With regards to claims 3, 4 and 10, the prior art of record does not suggest or teach an x-ray detector comprising a split scan line and split data line wherein, two separate data lines each conducting charge for two separate x-ray detectors are coupled in order to have one single data line conducting charge for both detectors. Although, such references as Kameshima *et al.* (US Pub. 20010033336 A1) teaches an x-ray detector comprising split scan lines, split data lines and multiple detectors, Kameshima shows no interest or motivation to modify the detector to include two data lines coupled together conducting charge for both detectors. As such, applicant's



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disclosure provides a novel and non-obvious improvement over the prior art therefore, claims 3, 4 and 10 contains allowable subject matter.

Claims 5, 6 and 7 are allowed because they further limit claim 4.


### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djura Malevic whose telephone number is 571.272.5975. The examiner can normally be reached on Monday - Friday between 8:30am and 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571.272.2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Djura Malevic**  
**Patent Examiner**  
**Art Unit 2884**  
**571.272.5975**



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